

PERMIT NO. 3296-235-0027-P-01-0

ISSUANCE DATE: March 21, 2017



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Quality Permit

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to and in effect under that Act,

Facility Name: Hyalus, Inc.

Facility Address: 106 Industrial Boulevard
Hawkinsville, Georgia 31036 (Pulaski County)

Mailing Address: 106 Industrial Boulevard
Hawkinsville, Georgia 31036

Facility AIRS Number: 04-13- 235-00027

is issued a Permit for the following:

Construction and operation of a facility for the manufacture of specialty glass fibers

This Permit is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 24026 dated October 13, 2016; any other applications upon which this Permit is based; supporting data entered therein or attached thereto; or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 32 pages.



[Signed]

Richard E. Dunn, Director
Environmental Protection Division

State of Georgia
Department of Natural Resources
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.1 Site Determination

The Hyalus facility will be located adjacent to an existing facility owned and operated by Hollingsworth and Vose, the parent company of Hyalus, which manufactures specialty aqueous and solvent based filter paper by continuous web process under Air Quality Permit No. 2621-235-0008-V-04-0. The new Hyalus facility will be located on the same site under the same management control, but as a separate facility for Title V and PSD purposes because the two facilities do not belong to the same industrial grouping. However, the facilities are evaluated as a single source to determine major source status under the NESHAP program [40 CFR 52.21(b)(6)(i); 40 CFR 70.2; 40 CFR 63.2].

1.2 Previous and/or Other Names

None.

1.3 Overall Facility Process Description

Raw Material Handling

The raw material received may include, but is not limited to; soda ash, borax, syenite, sand, fluorspar, zinc oxide, potassium carbonate, burnt dolomite, and barium. Bulk truck and super sack raw materials will be unloaded through separate unloading stations to eight raw material hoppers (ID No. RMH). Particulate emissions from each hopper will be vented to atmosphere through eight high efficiency dust filters (ID Nos. FB01 through FB08). Raw materials in each hopper will be loaded by weight into batch weigh hoppers then directed to the mixing tank (ID No. RMT) where the glass product recipe is blended. Particulate emissions generated from the weigh bin and mixing tank will also be vented to atmosphere through a high efficiency filter bank (ID No FB11).

Processed material received from the mixing tank will be transported to a feed hopper (ID No. RMF). The feed hopper will include a chute that transfers the good batch material to a conveyor continuously feeding processed material onto the top of a bed of molten glass inside the glass melt furnace. The raw material waste will be transported to a bad batch bin [ID No. RMF (combined with feed hopper ID)]. The feed hopper and bad batch bin will vent particulate emissions through filters (ID No. FB09 and FB10).

Glass Melt Furnace

Inside the glass melt furnace (ID No. MLTR), newly processed material of a specific recipe will be added to the surface of the molten glass already present, thereby ensuring a continuous homogeneous mixture. The glass melt furnace will be a cold top electrically heated design. Fumes resulting from the melting of the bulk materials in the glass melt furnace will be vented to a baghouse (ID No. BH01) for control. Controlled emissions from the particulate control device will exhaust through a single stack.

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Forehearths

The forehearths (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD) will receive molten glass at high temperatures from the glass melt furnace. Each of the forehearths will maintain the molten glass at the high temperature needed for it to flow into a specific fiberizer. The forehearths will also be able to deliver molten glass to a glass patty former or to a station that produces glass cullet. Glass patties and cullet are glass that has hardened. Patties are glass that has hardened in a mold. Cullet is formed from molten glass that has been routed to a fiberizer position that is inactive. The molten glass stream is then directed around the fiberizer position in a water cooled trough. Cullet forms into hardened glass with an amorphous shape.

Unlike the glass melt furnace, the forehearths will utilize natural gas combustion to maintain the molten glass temperature. Natural gas combustion emissions from each forehearth will be captured by suspended hoods and conveyed through ductwork to vent from a common forehearth exhaust stack.

Rotary Fiberizers

Rotary fiberizer positions [ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12 (44 positions)] will receive molten glass from the forehearths. The molten glass will be fed to a rotary spinner which utilizes centrifugal forces to push the molten glass outward through small holes resulting in thin glass fibers. The newly formed glass fibers will be pneumatically conveyed to collection drums for capture and packaging.

As an alternative to receiving molten glass from the forehearth, it may be desirable to deploy remelters on some rotary fiberizer positions. This technology allows the facility to recycle glass patties and cullet by placing this glass in a hopper and then melting it with electric heaters. This molten glass is then processed through the rotary fiberizer in the same manner as described in the previous paragraph.

Product Collection

After glass fibers have been created by the rotary fiberizers, the product is collected on a small drum screen (also called a condenser). The drum is a spinning cylinder with small holes. A fan will be used to pull air from inside the drum. As the air is sucked through the outside holes in the drum, the fiber will collect on the drum surface. The glass fibers then build up a mat on the drum. The mat is then removed automatically for product packaging. Some particulate, including fibers, will pass through the collection drums. Each drum will vent particulate emissions through a high-efficiency rotary drum filter [ID Nos. DF01 through DF22 (one filter for every two fiberizer positions) with additional filter stages. The remaining particulate will then pass through a cyclone [ID No. CY01 through CY22 (one cyclone for every drum filter) and a baghouse [ID Nos. DB01 through DB11 (one baghouse for every two cyclone outlets)].

Cooling Towers

Wet Cooling towers (ID Nos. CT01 through CT03) will be utilized to condition the air used in various processes at the proposed facility and to cool the closed-loop cooling water on the fiberizers. The proposed facility will utilize cooling towers with three cells. A drift eliminator will be installed in the cooling towers that has a drift rate of 0.001%.

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Emergency Generator

An emergency generator (ID No. EGEN) will be located onsite and will only operate to keep the glass molten in the furnace throat in the event that power is interrupted. Emissions will be limited through the combustion of ultra-low sulfur diesel fuel. The only non-emergency situations in which the generators will be operated is for maintenance checks and readiness testing recommended by the vendor or manufacturer as needed to ensure appropriate emergency response capabilities.

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PART 2.0 REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY

2.1 Facility Wide Emission Caps and Operating Limits

None applicable.

2.2 Facility Wide Federal Rule Standards

None applicable.

2.3 Facility Wide SIP Rule Standards

None applicable.

2.4 Facility Wide Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

None applicable.

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PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1 Emission Units

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
RMH	Raw Material Hoppers	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 52.21	3.2.1, 3.2.2, 3.4.1, 3.4.2, 4.2.1, 4.2.2, 5.2.1 through 5.2.4, 6.1.7, 6.2.1*	FB01-FB08	Baghouses (Stack ID No. RM01)
RMT	Weigh Bin / Mixing Vessel	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 52.21	3.2.1, 3.2.2, 3.4.1, 3.4.2, 4.2.1, 4.2.2, 5.2.1 through 5.2.4, 6.1.7, 6.2.1*	FB11	Baghouse (Stack ID No. RM03)
RMF	Bad Batch Bin / Furnace Day Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 52.21	3.2.1, 3.2.2, 3.4.1, 3.4.2, 4.2.1, 4.2.2, 5.2.1 through 5.2.4, 6.1.7, 6.2.1*	FB09 FB10	Baghouses (Stack ID No. RM02)
MLTR	Glass Melting Furnace	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 52.21	3.2.3 through 3.2.5, 3.4.1, 3.4.2, 4.2.1 through 4.2.3, 5.2.1, 5.2.3, 5.2.4, 6.1.7, 6.2.2, 6.2.3, and 6.2.10 through 6.2.12*	BH01	Baghouse (Stack ID No. MELT)
CANA DIST FORA FORB FORC FORD	Forehearths (with furnace canal and distributor)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 40 CFR 52.21	3.2.6 through 3.2.9, 3.4.1 through 3.4.3, 4.2.1 through 4.2.3, 5.2.1, 6.1.7, 6.2.4, 6.2.10, 6.2.11*	None	None (Stack ID No. FHTH)
RA01-RA10 RB01-RB10 RC01-RC12 RD01-RD12	Rotary Fiberizers (44)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 40 CFR 52.21	3.2.19 through 3.2.22, 3.4.1 through 3.4.3, 4.2.1 through 4.2.3, 5.2.1 through 5.2.6, 6.1.7, and 6.2.4 through 6.2.12*	CY01-CY22 DB01-DB11 DF01-DF22	Cyclones (CY) Baghouses (DB) Rotary Drum Filters (DF) (Stack ID Nos. F_01-F_11)
CT01-CT03	Cooling Towers (3)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 52.21	3.4.1 and 3.4.2*	None	Drift Eliminators (Stack ID Nos. CT01-CT03)
EGEN	Emergency Generator	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 60 Subpart A 40 CFR 60 Subpart III 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	3.2.24, 3.3.1 through 3.3.7, 3.4.1, 5.2.7, 6.1.7, and 6.2.14*	None	None
N/a	Plant Roads	391-3-1-.02(2)(n)	3.4.4 and 3.4.5*	None	None

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

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3.2 Equipment Emission Caps and Operating Limits

- 3.2.1 The Permittee shall not discharge or cause to be discharged into the atmosphere from any raw material handling stack (ID Nos. RM01, RM02, or RM03) any gases that contain particulate matter (PM₁₀/PM_{2.5}) in excess of 0.017 pound per ton (lb/ton) of raw material input.
[PSD - 40 CFR 52.21]
- 3.2.2 The Permittee shall not process in excess of 34,786 tons of raw material through the raw material handling unit (ID Nos. RMH, RMF, and RMT) during any consecutive 12-month period.
[PSD – 40 CFR 52.21]
- 3.2.3 The Permittee shall not discharge or cause to be discharged into the atmosphere from the glass melting furnace stack (ID No. MELT) any gases that contain particulate matter (PM₁₀/PM_{2.5}) in excess of 0.19 lb/ton of molten glass pulled through the furnace (ID No. MLTR).
[PSD - 40 CFR 52.21]
- 3.2.4 The Permittee shall not pull in excess of 27,375 tons of molten glass through the glass melting furnace (ID No. MLTR) during any consecutive 12-month period.
[PSD – 40 CFR 52.21]
- 3.2.5 The Permittee shall not discharge or cause to be discharged into the atmosphere from the glass melting furnace stack (ID No. MELT) any gases that contain carbon dioxide equivalent (CO₂e) green-house gases (GHG) in excess of 8,227 tons during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.6 The Permittee shall not discharge or cause to be discharged into the atmosphere from the forehearth stack (ID No. FHTH) any gases that contain particulate matter (PM₁₀/PM_{2.5}) in excess of 7.6 pounds per million standard cubic feet (lb/MMscf) of natural gas fired in the forehearth unit (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD).
[PSD - 40 CFR 52.21]
- 3.2.7 The Permittee shall not discharge or cause to be discharged into the atmosphere from the forehearth unit stack (ID No. FHTH) any gases that contain carbon monoxide (CO) in excess of 55.8 pounds per million standard cubic feet (lb/MMscf) of natural gas fired in the forehearth unit (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD).
[PSD - 40 CFR 52.21]
- 3.2.8 The Permittee shall not discharge or cause to be discharged into the atmosphere from the forehearth unit stack (ID No. FHTH) any gases that contain nitrogen oxides (NO_x) in excess of 13.2 pounds per million standard cubic feet (lb/MMscf) of natural gas fired in the forehearth unit (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD).
[PSD - 40 CFR 52.21]

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- 3.2.9 The Permittee shall not discharge or cause to be discharged into the atmosphere from the forehearth unit stack (ID No. FHTH) any gases that contain carbon dioxide equivalent (CO₂e) green-house gases (GHG) in excess of 6,505 tons during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.10 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain PM/PM₁₀ in excess of 8.11 lb-PM/PM₁₀/ton of rotary fine fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.11 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain PM_{2.5} in excess of 7.24 lb-PM_{2.5}/ton of rotary fine fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.12 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain PM/PM₁₀ in excess of 1.70 lb-PM/PM₁₀/ton of rotary coarse fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.13 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain PM_{2.5} in excess of 1.58 lb-PM_{2.5}/ton of rotary coarse fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.14 The Permittee shall not discharge or cause to be discharged into the atmosphere from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11) any gases that contain PM/PM₁₀ totaling in excess of 47.8 ton-PM/PM₁₀ during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.15 The Permittee shall not discharge or cause to be discharged into the atmosphere from the rotary fiberizer units stacks (ID Nos. F_01 through F_11) any gases that contain PM_{2.5} totaling in excess of 43.0 ton-PM_{2.5} during any consecutive 12-month period.
[PSD - 40 CFR 52.21]

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- 3.2.16 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain CO in excess of 270.0 lb-CO/ton of rotary fine fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.17 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain CO in excess of 53.0 lb-CO/ton of rotary coarse fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.18 The Permittee shall not discharge or cause to be discharged into the atmosphere from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11) any gases that contain CO totaling in excess of 1,573 ton-CO during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.19 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain NO_x in excess of 12.0 lb-NO_x/ton of rotary fine fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.20 The Permittee shall not discharge or cause to be discharged into the atmosphere from any rotary fiberizer stack (ID Nos. F_01 through F_11) any gases that contain NO_x in excess of 2.58 lb-NO_x/ton of rotary coarse fiber produced in the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12).
[PSD - 40 CFR 52.21]
- 3.2.21 The Permittee shall not discharge or cause to be discharged into the atmosphere from the rotary fiberizer unit stack (ID Nos. F_01 through F_11) any gases that contain NO_x totaling in excess of 70.8 ton-NO_x during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.22 The Permittee shall not discharge or cause to be discharged into the atmosphere from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11) any gases that contain carbon dioxide equivalent (CO₂e) green-house gases (GHG) totaling in excess of 83,368 tons during any consecutive 12-month period.
[PSD - 40 CFR 52.21]
- 3.2.23 The Permittee shall not discharge or cause the discharge into the atmosphere from the entire facility any gases which contain fluorides in the amount equal to or in excess of 2.9 tons during any consecutive 12-month period.
[Avoidance of 40 CFR 52.21]

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- 3.2.24 The Permittee shall operate the engine- driven emergency generator (ID No. EGEN) within the following operational limitations:
- a. Engine shall not operate more than 100 hours for non-emergency use during any twelve consecutive months.
[40 CFR 63.6640(f)(1) subsumed]
 - b. Engine shall only be used for emergency use (i.e - when electric power from the local utility is not available) and for readiness testing and maintenance.

3.3 Equipment Federal Rule Standards

- 3.3.1 The Permittee shall comply with Georgia Rule for Air Quality Control 391-3-1-.02(8)(b)77., which incorporates by reference 40 CFR Part 60 Subpart IIII, as these rules pertain to the Emergency Generator Engine (ID No. EGEN). The Permittee shall operate the emergency generator engine in compliance with the provisions of the New Source Performance Standards (NSPS) found in 40 CFR Part 60 Subpart A - "General Provisions" as indicated in Table 8 to Subpart IIII of Part 60 – Applicability of General Provisions to Subpart IIII and Subpart IIII - "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines."
[40 CFR 60 Subpart A and Subpart IIII]
- 3.3.2 The Permittee shall comply with all applicable provisions of the National Emission Standard for Hazardous Air Pollutants (NESHAP) as found in 40 CFR Part 63, in Subpart A – “General Provisions,” as indicated in Table 8 to Subpart ZZZZ of Part 63 - Applicability of General Provisions to Subpart ZZZZ.
[40 CFR 63, Subpart A]
- 3.3.3 The Permittee shall comply with all applicable provisions of 40 CFR 63, Subpart ZZZZ – “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines”
[40 CFR 63, Subpart ZZZZ]
- 3.3.4 The Permittee must not discharge or cause the discharge into the atmosphere from the Emergency Generator Engine (ID No. EGEN), any gases which contain pollutants in excess of the standards found in Table 2 of 40 CFR 1042.101, which relevant part is reproduced below:
[Subpart IIII, 40 CFR 4205(b); 40 CFR 1042.101]

Maximum engine power	Model year(s)	Emission limit(s) (g/kW-hr)	
		NO _x +HC	PM
KW<2000	2013+	6.2	0.14

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- 3.3.5 The Permittee must operate and maintain the Emergency Generator Engine (ID No. EGEN) such that it achieves the emission standard as required in Condition No. 3.3.4 over the entire life of the engine.
[Subpart IIII, 40 CFR 4206]
- 3.3.6 The Permittee must use diesel fuel that complies with the sulfur content and Cetane Index or aromatic content requirements of 40 CFR 80.510(b) for non-road diesel fuel for the Emergency Generator Engine (ID No. EGEN) as follows:
[Subpart IIII, 40 CFR 60.4207(b); Subpart ZZZZ, 40 CFR 63.6604(c); and 40 CFR 80.510(b); 391-3-1-.02(2)(g) Subsumed]

Maximum Sulfur content by weight	Cetane Index OR Aromatic content	
	Minimum Cetane Index	Maximum Aromatic content by volume
15 ppm (0.0015%)	40	35%

- 3.3.7 The Permittee must demonstrate compliance as indicated below for the Emergency Generator Engine (ID No. EGEN) if the Permittee does not install, configure, operate, and maintain the engine according to the manufacturer's emission-related written instructions, or change emission-related settings in a way that is not permitted by the manufacturer:

The Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[Subpart IIII, 40 CFR 60.4211(g)(3)]

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3.4 Equipment SIP Rule Standards

- 3.4.1 The Permittee shall not discharge into the atmosphere from any emission point of the following emission units, or any other unit subject to Georgia Rule (b), any gases which exhibit opacity equal to or greater than 40 percent:
 [391-3-1-.02(2)(b)]

Emission Unit	Emission Unit ID No.	Stack ID No.
Raw material hopper	RMH	RM01
Weigh bin/Mixing vessel	RMT	RM03
Bad batch bin/Furnace day bin	RMF	RM02
Forehearth A through Forehearth D	CANA, DIST, FORA, FORB, FORC, FORD	FHTH
Glass melting furnace	MLTR	MELT
Rotary fiberizers to DF09, DF10	RA09, RB09, RA10, RB10	F_01
Rotary fiberizers to DF05, DF06	RA05, RB05, RA06, RB06	F_02
Rotary fiberizers to DF01, DF02	RA01, RB01, RA02, RB02	F_03
Rotary fiberizers to DF13, DF14	RC03, RD03, RC04, RD04	F_04
Rotary fiberizers to DF17, DF18	RC07, RD07, RC08, RD08	F_05
Rotary fiberizers to DF21, DF22	RC11, RD11, RC12, RD12	F_06
Rotary fiberizers to DF07, DF08	RA07, RB07, RA08, RB08	F_07
Rotary fiberizers to DF03, DF04	RA03, RB03, RA04, RB04	F_08
Rotary fiberizers to DF11, DF12	RC01, RD01, RC02, RD02	F_09
Rotary fiberizers to DF15, DF16	RC05, RD05, RC06, RD06	F_10
Rotary fiberizers to DF19, DF20	RC09, RD09, RC10, RD10	F_11
Cooling tower	CT01	CT01
Cooling tower	CT02	CT02
Cooling tower	CT03	CT03
Emergency generator	EGEN	None

- 3.4.2 The Permittee shall not discharge or cause the discharge into the atmosphere from each emission unit listed in Condition No. 3.4.1, any gases which contain particulate matter in excess of the rate derived from the applicable Rule (e) equation listed in this condition:
 [391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:

$$E = 4.1P^{0.67}$$

- b. For process input weight rate above 30 tons per hour:

$$E = 55P^{0.11} - 40$$

where:

E = the allowable particulate matter emission rate in pounds per hour.
 P = the dry process input weight rate in tons per hour.

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- 3.4.3 The Permittee shall burn only natural gas in the forehearths and rotary fiberizers.
[391-3-1-.02(2)(g) subsumed]
- 3.4.4 The Permittee shall not discharge or cause the discharge into the atmosphere from the plant roads any fugitive dust which exhibits opacity equal to or greater than 20 percent.
[391-3-1-.02(2)(n)]
- 3.4.5 The Permittee shall take all reasonable precautions to prevent dust from becoming airborne including, but not limited to, the application of water or other suitable chemicals to control fugitive dust from roads.
[391-3-1-.02(2)(n)]

3.5 Equipment Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

- 3.5.1 The Permittee shall maintain an inventory of filter bags such that an adequate supply of bags are on hand to replace any defective bags in each baghouse.
[391-3-1-.03(2)(c)]
- 3.5.2 The Permittee shall maintain an inventory of drum filter media and the perforated drum filter such that an adequate supply of media and perforated drum filter is on hand to assure a continuous supply of media and perforated drum filter for the rotary drum filters (ID Nos. DF01 through DF22).
[391-3-1-.03(2)(c)]

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PART 4.0 REQUIREMENTS FOR TESTING

4.1 General Testing Requirements

- 4.1.1 The Permittee shall cause to be conducted a performance test at any specified emission unit when so directed by the Environmental Protection Division ("Division"). The test results shall be submitted to the Division within 60 days of the completion of the testing. Any tests shall be performed and conducted using methods and procedures that have been previously specified or approved by the Division.
[391-3-1-.02(6)(b)1(i)]
- 4.1.2 The Permittee shall provide the Division thirty (30) days (or sixty (60) days for tests required by 40 CFR Part 63) prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test, and shall provide with the notification a test plan in accordance with Division guidelines.
[391-3-1-.02(3)(a) and 40 CFR 63.7(b)(1)]
- 4.1.3 Performance and compliance tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. The methods for the determination of compliance with emission limits listed under Sections 3.2, 3.3, 3.4 and 3.5 are as follows:
- a. Method 1 shall be used for selection of sampling site and number of traverse points.
 - b. Method 2 shall be used to determine stack gas flow rate.
 - c. Method 3 or 3A shall be used to determine gas molecular weight.
 - d. Method 4 shall be used to determine moisture concentration.
 - e. Method 5 and Method 202 shall be used to determine the PM/PM₁₀/PM_{2.5} concentration.
 - f. Method 7 or 7E shall be used to determine nitrogen oxides concentration.
 - g. Method 9 and the procedures of Section 1.3 of the above referenced document shall be used to determine opacity.
 - h. Method 10 shall be used to determine the carbon monoxide concentration.
 - i. Method 13B shall be used to determine the total fluoride concentration.
 - j. Method 25 shall be used to determine the concentration of VOC, as carbon. Method 25A may be used for this purpose at the discretion of the Director. Appropriate conversion factors must be used to convert the VOC (as carbon) to actual VOC. A conversion factor of 1.2 may be used if industry specific data is not available.

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k. Method 320 shall be used to determine formaldehyde concentration.

Minor changes in methodology may be specified or approved by the Director or his designee when necessitated by process variables, changes in facility design, or improvement or corrections that, in his opinion, render those methods or procedures, or portions thereof, more reliable.

[391-3-1-.02(3)(a)]

4.1.4 The Permittee shall submit performance test results to the US EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI) in accordance with any applicable NSPS or NESHAP standards (40 CFR 60 or 40 CFR 63) that contain Electronic Data Reporting Requirements. This Condition is only applicable if required by an applicable standard and for the pollutant(s) subject to said standard.

[391-3-1-.02(8)(a) and 391-3-1-.02(9)(a)]

4.1.5. All monitoring systems and/or monitoring devices required by the Division shall be installed, calibrated and operational prior to conducting any performance test(s). For any performance test, the Permittee shall, using the monitoring systems and/or monitoring devices, acquire data during each performance test run. All monitoring system and/or monitoring device data acquired during the performance testing shall be submitted with the performance test results.

4.2 Specific Testing Requirements

4.2.1 Within 180 days after the startup of this source, the Permittee shall conduct performance tests for the following pollutants emitted from the indicated equipment as specified in a. through q below.

For the rotary fiberizer unit tests, the Permittee shall test one stack (e.g. F_01) for rotary fine fiberizer production and two stacks (e.g. F_03 and F_04) for rotary coarse fiberizer production. The Permittee shall test another stack for rotary fine fiberizer production within 120 days after startup of such a stack ducting fine fiberizer exhaust.

a. Particulate matter from the raw material hopper stack (ID No. RM01), the weigh bin/mixing vessel stack (ID No. RM03), and the bad batch bin/furnace day bin (ID No. RM02) to demonstrate compliance with the PM₁₀/PM_{2.5} limit in Condition No. 3.2.1.

[PSD - 40 CFR 52.21]

b. Particulate matter from the glass melting furnace stack (ID No. MELT) to demonstrate compliance with the PM₁₀/PM_{2.5} limit in Condition No. 3.2.3.

[PSD - 40 CFR 52.21]

c. CO from the forehearth unit stack (ID No. FHTH) to demonstrate compliance with the limit in Condition No. 3.2.7.

[PSD - 40 CFR 52.21]

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- d. NO_x from the forehearth unit stack (ID No. FHTH) to demonstrate compliance with the limit in Condition No. 3.2.8.
[PSD - 40 CFR 52.21]
- e. Particulate matter from a fine fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the PM/PM₁₀ limit in Condition No. 3.2.10.
[PSD - 40 CFR 52.21]
- f. Particulate matter from a fine fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the PM_{2.5} limit in Condition No. 3.2.11.
[PSD - 40 CFR 52.21]
- g. Particulate matter from a coarse fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the PM/PM₁₀ limit in Condition No. 3.2.12.
[PSD - 40 CFR 52.21]
- h. Particulate matter from a coarse fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the PM_{2.5} limit in Condition No. 3.2.13.
[PSD - 40 CFR 52.21]
- i. CO from a fine fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the limit in Condition No. 3.2.16.
[PSD - 40 CFR 52.21]
- j. CO from a coarse fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the limit in Condition No. 3.2.17.
[PSD - 40 CFR 52.21]
- k. NO_x from a fine fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the limit in Condition No. 3.2.19.
[PSD - 40 CFR 52.21]
- l. NO_x from a coarse fiber rotary fiberizer stack (ID Nos. F_01 through F_11) to demonstrate compliance with the limit in Condition No. 3.2.20.
[PSD - 40 CFR 52.21]
- m. Fluorides from a rotary fiberizer stack (ID Nos. F_01 through F_11) during fine fiber production. Using data obtained from the tests, the Permittee shall establish emission factors (lb-F/ton glass pulled) for fluorides for fine fiber production.
[Avoidance of 40 CFR 52.21]
- n. Fluorides from a rotary fiberizer stack (ID Nos. F_01 through F_11) during coarse fiber production. Using data obtained from the tests, the Permittee shall establish emission factors (lb-F/ton glass pulled) for fluorides for coarse fiber production.
[Avoidance of 40 CFR 52.21]

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- o. Fluorides from the glass melting furnace stack (ID No. MELT). Using data obtained from the tests, the Permittee shall establish emission factor (lb-F/ton glass pulled) for fluorides.
[Avoidance of 40 CFR 52.21]
- p. Formaldehyde from a rotary fiberizer stack (ID Nos. F_01 through F_11) during fine fiber production to ensure accuracy of the emission factor utilized in Application No. 24026.
- q. Formaldehyde from a rotary fiberizer stack (ID Nos. F_01 through F_11) during coarse fiber production to ensure accuracy of the emission factor utilized in Application No. 24026.

During the performance tests for the glass melting furnace stack (ID No. MELT), the Permittee shall determine and record the glass pull rate for the glass melting furnace and the natural gas usage of the forehearth. During the rotary fiberizer (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) tests, the Permittee shall determine and record, the amount (tons) of fine or coarse fiber produced by the rotary fiberizer units connected to the stacks being tested. For the purposes of this permit, fiberizer production equals glass pull rate through a fiberizer and the sum of all fiberizer glass pull rates (aka production), plus the weight of any patties/cullet, equals the glass pull rate of the furnace.

The performance tests for NO_x and CO shall be conducted concurrently.
[391-3-1-.02(6)(b)1(i)]

4.2.2 During the performance tests required by Condition No. 4.2.1, the Permittee shall continuously monitor and record the pressure drop across the following control devices which are relevant to the test being conducted:

- a. The rotary drum filters (ID Nos. DF01 through DF22) controlling the set of four rotary fiberizer units, as applicable.
- b. The baghouses (ID Nos. DB01 through DB11) attached to the rotary fiber cyclones, as applicable.
- c. The glass melting furnace baghouse (ID No. BH01).
- d. The raw material handling baghouses (ID Nos. FB01 through FB11), as applicable.

The Permittee shall determine and record the pressure drop range for each control device above.

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- 4.2.3 The Permittee shall perform repeat performance tests for CO and NO_x from the forehearths (ID Nos. CANA, DIST, FORA through FORD); CO, NO_x, and fluorides emissions from the rotary fiberizer units (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12); and fluorides from the glass melting furnace (ID No. MLTR) every 24 months not to exceed 30 months from the previous performance test as required in Condition No. 4.2.1. For PM, the repeat performance tests shall be every 36 months not to exceed 42 months from the previous performance test required in Condition No. 4.2.1 for the rotary fiberizer unit and for the melting furnace. When possible, and as allowed by product mix constraints (i.e rotary fine vs rotary coarse), repeat performance tests shall be conducted on new previously untested stacks as they become available.

The Permittee shall perform test on one stack (e.g. F_01) for CO, NO_x, and fluorides during fine fiber production and another stack (e.g. F_02) for CO, NO_x, and fluorides during coarse fiber production.

[391-3-1-.02(6)(b)1(i)]

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PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.1 General Monitoring Requirements

- 5.1.1 Any continuous monitoring system required by the Division and installed by the Permittee shall be in continuous operation and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Monitoring system response, relating only to calibration checks and zero and span adjustments, shall be measured and recorded during such periods. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.
[391-3-1-.02(6)(b)1]

5.2 Specific Monitoring Requirements

- 5.2.1 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]
- a. Weight of raw material processed through the raw material handling unit (ID Nos. RMH, RMF, and RMT). Data shall be recorded monthly.
 - b. Glass pull rate from the glass melting furnace MLTR (this is sum of pull rates through fiberizers plus patties/cullet). Data shall be recorded monthly.
 - c. Amount of each raw material added to the glass melting furnace (ID No. MLTR). Data shall be recorded monthly.
 - d. Amount of natural gas burned in the forehearths (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD). Data shall be recorded monthly.
 - e. Glass pulled through each set of rotary fiberizers (e.g., RA01 RA02, RB01, and RB02) whose flue gas exhaust through a common stack (e.g., F_01). Data shall be recorded monthly.

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- h. Amount of natural gas burned in the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12). Data shall be recorded monthly.

5.2.2 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.

[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]

- a. Pressure differential across the baghouses with ID Nos. FB01 through FB11, BH01, DB01 through DB11. For each baghouse with multiple compartments, the pressure differential shall be measured for each individual compartment. Data shall be recorded once per day of operation.
- b. Pressure differential across each rotary drum filter (ID Nos. DF01 through DF22). Data shall be recorded once per day of operation.

5.2.3 The Permittee shall perform a check of visible emissions from stacks RM01, RM02, RM03, MELT, and F_01 through F_11 which vents the flue gas from Baghouses FB01 through FB08, FB09 and FB10, FB11, BH01, and rotary drum filters DF01 through DF22, respectively, controlling emissions from the raw material hopper (ID No. RMH), the bad batch bin/furnace day bin (ID. No. RMF), the weigh bin/mixing vessel (ID No. RMT), the glass melting furnace (ID No. MLTR), and the rotary fiberizer unit (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12). The Permittee shall retain a record in a daily visible emissions (VE) log suitable for inspection or submittal. The check shall be conducted at least once for each day or portion of each day of operation using procedures a through c below except when scheduling, atmospheric conditions or sun positioning prevent any opportunity to perform the daily VE check. Any operational day when scheduling, atmospheric conditions or sun position prevent a daily reading shall be reported as monitor downtime in the report required by Condition 6.1.4. Scheduling prevents a daily VE check only when an emission unit is not operating during a regularly scheduled time period established for the daily VE checks.

[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]

- a. Determine, in accordance with the procedures specified in paragraph d of this condition, if visible emissions are present at the discharge point to the atmosphere from each of the sources and record the results in the daily (VE) log. For sources that exhibit visible emissions, the Permittee shall comply with paragraph b of this condition.

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- b. For each source that requires action in accordance with paragraph a of this condition, the Permittee shall determine the cause of the visible emissions and correct the problem in the most expedient manner possible. The Permittee shall note the cause of the visible emissions, the pressure drop, any other pertinent operating parameters, and the corrective action taken in the maintenance log.
 - c. The person performing the determination shall stand at a distance of at least 15 feet which is sufficient to provide a clear view of the plume against a contrasting background with the sun in the 140° sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other.
- 5.2.4 Sixty (60) days prior to the anticipated startup of the facility, the Permittee shall develop and implement a Preventive Maintenance Program for the baghouses specified in Condition 5.2.3 to assure that the provisions of Part 3.0 are met. The program shall be subject to review and, if necessary to assure compliance, modification by the Division and shall include the pressure drop ranges that indicate proper operation for each baghouse. At a minimum, the following operation and maintenance checks shall be made on at least a weekly basis, and a record of the findings and corrective actions taken shall be kept in a maintenance log:
[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]
- a. Record the pressure drop across each baghouse and ensure that it is within the appropriate range.
 - b. For baghouses equipped with compressed air cleaning systems, check the system for proper operation. This may include checking for low pressure, leaks, proper lubrication, and proper operation of timer and valves.
 - c. For baghouses equipped with reverse air cleaning systems, check the system for proper operation. This may include checking damper, bypass, and isolation valves for proper operation.
 - d. For baghouses equipped with shaker cleaning systems, check the system for proper operation. This may include checking shaker mechanism for loose or worn bearings, drive components, mounting; proper operation of outlet/isolation valves; proper lubrication.
 - e. Check dust collector hoppers and conveying systems for proper operation.

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- 5.2.5 Sixty (60) days prior to the anticipated startup of the facility, the Permittee shall develop and implement a Preventive Maintenance Program for each rotary drum filter (ID Nos. DF01 through DF22) to assure that the provisions of Part 3.0 are met. The program shall be subject to review and modification by the Division and shall include the pressure drop range that indicates proper operation for each rotary filter drum. At a minimum, the following operation and maintenance checks shall be made on at least a daily basis, and a record of the findings and corrective actions taken shall be recorded and kept in a maintenance log:
[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]
- a. Record the pressure drop across each rotary drum filter and ensure that it is within the appropriate range.
 - b. Check that the vacuum nozzles are cleaning the dust from the surface of the rotary drum filter and that the dust collection system is operating properly.
- 5.2.6 The Permittee shall, for each week or portion of each week of operation of the rotary fiberizer unit inspect the exterior of each cyclone (ID Nos. CY01 through CY22) for holes in the body or evidence of malfunction in the interior of the cyclone. Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall maintain records of the weekly inspections and the records shall contain a description of all corrective actions taken.
[PSD - 40 CFR 52.21, 391-3-1-.02(6)(b)1]
- 5.2.7 The Permittee shall install, operate, and maintain non-resettable hour meter on the Emergency Generator Engine (ID No. EGEN).
[Subpart IIII, 40 CFR 60.4209(a); 391-3-1-.02(6)(b)1]

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PART 6.0 RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

6.1.1 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and to the EPA. The records shall be retained for at least five (5) years following the date of entry.

[391-3-1-.02(6)(b)1(i)]

6.1.2 In addition to any other reporting requirements of this Permit, the Permittee shall report to the Division in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emissions control equipment for a period of four hours or more which results in excessive emissions.

The Permittee shall submit a written report that shall contain the probable cause of the deviation(s), duration of the deviation(s), and any corrective actions or preventive measures taken.

[391-3-1-.02(6)(b)1(iv)]

6.1.4 The Permittee shall submit a written report containing any excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each semiannual period ending June 30 and December 31 of each year. All reports shall be postmarked by August 29 and February 28, respectively following each reporting period. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's Procedures for Testing and Monitoring Sources of Air Pollutants and shall contain the following:

[391-3-1-.02(6)(b)1]

- a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.
- b. Total process operating time during each reporting period.
- c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.
- d. Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

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- e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - f. Certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- 6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:
[391-3-1-.02(6)(b)1]
- a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)
 - i. None required to be reported in accordance with Condition 6.1.4.
 - b. Exceedances: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)
 - i. Any 12-month rolling period during which the amount of raw material processed through the material handling unit (ID Nos. RMH, RMF, and RMT) exceeds 34,786 tons.
[PSD – 40 CFR 52.21]
 - ii. Any 12-month rolling period during which the amount of total glass pulled from the glass melting furnace (ID No. MLTR) exceeds 27,375 tons.
[PSD - 40 CFR 52.21]
 - iii. Any 12-month rolling period during which the GHG emissions (CO₂e) from the glass melting furnace (ID No. MLTR), calculated in accordance with Condition No. 6.2.11, exceeds 8,227 tons.
[PSD - 40 CFR 52.21]
 - iv. Any 12-month rolling period during which the GHG emissions (CO₂e) from the forehearth unit stack (ID No. FHTH), calculated in accordance with Condition No. 6.2.11, exceeds 6,505 tons.
[PSD - 40 CFR 52.21]

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- v. Any 12-month rolling period during which the combined PM/PM₁₀ emissions from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11), calculated in accordance with Condition No. 6.2.7, exceeds 47.8 tons.
[PSD - 40 CFR 52.21]
- vi. Any 12-month rolling period during which the combined PM_{2.5} emissions from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11), calculated in accordance with Condition No. 6.2.7, exceeds 43.0 tons.
[PSD - 40 CFR 52.21]
- vii. Any 12-month rolling period during which the combined CO emissions from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11), calculated in accordance with Condition No. 6.2.8, exceeds 1,573 tons.
[PSD - 40 CFR 52.21]
- viii. Any 12-month rolling period during which the combined NO_x emissions from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11), calculated in accordance with Condition No. 6.2.9, exceeds 70.8 tons.
[PSD - 40 CFR 52.21]
- ix. Any 12-month rolling period during which the combined GHG emissions (CO₂e) from the rotary fiberizer unit stacks (ID Nos. F_01 through F_11), calculated in accordance with Condition No. 6.2.11, exceeds 83,368 tons.
[PSD - 40 CFR 52.21]
- x. Any 12-month rolling period during which the combined fluoride emissions from the entire site, calculated in accordance with Condition No. 6.2.13, exceeds 2.9 tons.
[Avoidance of 40 CFR 52.21]
- xi. Any two consecutive required daily determinations of visible emissions requiring action by Condition No. 5.2.3 from the same stack.
- xii. Any instance that an operational or maintenance check required by Condition Nos. 5.2.4, 5.2.5, and 5.2.6 reveals that a maintenance action level was triggered and the maintenance was not performed according to the Preventative Maintenance Program.
- xiii. Any 12-month rolling period during which emergency generator engine (ID No. EGEN) is operated for more than 100 hours for non-emergency use.

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- c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)
 - i. For the sources specified in Condition No. 5.2.2, any occurrence when the differential pressure across a control device is outside the range established during the performance test required by Condition No. 4.2.1.

6.2 Specific Record Keeping and Reporting Requirements

- 6.2.1 The Permittee shall maintain records of the amount of raw material processed through the material handling unit (ID Nos. RMH, RMF, and RMT) during each calendar month. The Permittee shall use the monthly data to calculate the quantity of raw material processed on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. The Permittee shall submit the monthly and 12-month rolling totals calculated during each reporting period with the semiannual report required by Condition 6.1.4.
[PSD - 40 CFR 52.21]
- 6.2.2 The Permittee shall maintain records of the amount of molten glass pulled through the glass melting furnace (ID No. MLTR) during each calendar month. The Permittee shall use the monthly data to calculate the quantity of glass pulled on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. The Permittee shall submit the monthly and 12-month rolling totals calculated during each reporting period with the semiannual report required by Condition 6.1.4.
[PSD - 40 CFR 52.21]
- 6.2.3 The Permittee shall maintain records of the amount of each raw material added to the glass melting furnace (ID No. MLTR) during each calendar month.
[PSD - 40 CFR 52.21]
- 6.2.4 The Permittee shall maintain records of the amount of natural gas burned in the forehearths (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD) and in the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) during each calendar month.
[PSD - 40 CFR 52.21]
- 6.2.5 The Permittee shall maintain records of amount of each fiber type (fine and coarse) produced in the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) during each calendar month. The records shall include which fiber type(s) and amount was produced on each fiberizer position during the month. For the purposes of this permit, glass pull rate through a fiberizer equals fiber production rate
[PSD - 40 CFR 52.21]

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- 6.2.6 Upon startup, the Permittee facility shall develop, implement, and submit to the Division a calculation protocol for calculating the total amount of PM/PM₁₀, PM_{2.5}, CO, and NO_x emissions from the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11 on a monthly basis.

The protocol shall use the fiber type-specific emission limits in Section 3.2 of this permit and the monthly production data recorded in accordance with Condition Nos. 6.2.2 through 6.2.5 to determine monthly emissions. Following initial performance testing in accordance with Condition 4.2.1, the Permittee shall use the emission factors derived from the average of the test runs for each source type in lieu of the Section 3.2 emission limits.
[PSD - 40 CFR 52.21]

- 6.2.7 The Permittee shall use the protocol required by Condition No. 6.2.6 to calculate total monthly PM/PM₁₀ and PM_{2.5} emissions from the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11. The Permittee shall use the monthly totals to calculate emissions on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. All emission factors, calculations, and operating data used to determine the emissions must be kept as part of the record.

The Permittee shall notify the Division in writing if the combined emissions of PM/PM₁₀ or PM_{2.5} from the rotary fiberizers exceed 3.98 tons or 3.58 tons, respectively, during any calendar month. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limits in Condition Nos. 3.2.14 and 3.2.15.
[PSD - 40 CFR 52.21]

- 6.2.8 The Permittee shall use the protocol required by Condition No. 6.2.6 to calculate total monthly CO emissions from the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11. The Permittee shall use the monthly totals to calculate emissions on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. All emission factors, calculations, and operating data used to determine the emissions must be kept as part of the record.

The Permittee shall notify the Division in writing if the combined emissions of CO from the rotary fiberizers exceed 131.08 tons during any calendar month. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limit in Condition No. 3.2.18.
[PSD - 40 CFR 52.21]

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- 6.2.9 The Permittee shall use the protocol required by Condition No. 6.2.6 to calculate total monthly NO_x emissions from the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11. The Permittee shall use the monthly totals to calculate emissions on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. All emission factors, calculations, and operating data used to determine the emissions must be kept as part of the record.

The Permittee shall notify the Division in writing if the combined emissions of NO_x from the rotary fiberizers exceed 5.9 tons during any calendar month. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limit in Condition No. 3.2.21.

[PSD - 40 CFR 52.21]

- 6.2.10 Upon startup, the Permittee shall develop, implement, and submit a calculation protocol for calculating the total amount of GHG (CO₂e) emissions, on a monthly basis, from the following sources:

- a. The glass melting furnace (ID No. MLTR) emitted through Stack ID No. MELT;
- b. The forehearths (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD) emitted through Stack ID No. FHTH; and
- c. The rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11.

The protocol shall use GHG emission factors in 40 CFR Part 98 for natural gas combustion for the forehearths and rotary fiberizers, and for carbonate-based raw materials for the glass melting furnace (as shown below), as well as the operational production data recorded in accordance with Condition Nos. 6.2.2 through 6.2.5. This data includes, but may not be limited to, raw material usage in the glass melting furnace, natural gas usage, and the production rate of each unit.

Exerpt of GHG Emission factors – Table N-1 40 CFR 98

Raw Material	EF (ton CO₂e/ton material)
Limestone	0.44
Dolomite	0.48
Sodium Carbonate	0.42
Barium Carbonate	0.22
Potassium Carbonate	0.32

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- 6.2.11 The Permittee shall use the protocol required by Condition No. 6.2.10 to calculate the following on a monthly basis. The Permittee shall use the monthly totals to calculate emissions on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. All emission factors, calculations, and operating data used to determine the emissions must be kept as part of the record. The notifications shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limits in Condition No. 3.2.5, 3.2.9, and/or 3.2.22.
[PSD - 40 CFR 52.21]
- a. Total monthly GHG (CO₂e) emissions from the glass melting furnace (ID No. MLTR) emitted through Stack ID No. MELT. The Permittee shall notify the Division in writing if the emissions from the glass melting furnace exceed 685.58 tons during any calendar month.
 - b. Total combined monthly GHG (CO₂e) emissions from the forehearths (ID Nos. CANA, DIST, FORA, FORB, FORC, and FORD) emitted through Stack ID No. FHTH. The Permittee shall notify the Division in writing if the combined emissions from the forehearth unit exceed 542.08 tons during any calendar month.
 - c. Total combined monthly GHG (CO₂e) emissions from the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitted through Stack ID Nos. F_01 through F_11. The Permittee shall notify the Division in writing if the combined emissions from the rotary fiberizers exceed 6,947.38 tons during any calendar month.
- 6.2.12 Upon startup, the Permittee shall develop, implement, and submit a calculation protocol for calculating the total amount of fluorides emitted from the entire facility on a monthly basis. The protocol shall include, but may not be limited to, emission factors for each fiber type and the operational data recorded in accordance with Condition Nos. 6.2.2 through 6.2.5, as applicable, for the glass melting furnace (ID No. MLTR) emitting through Stack ID No. MELT and the rotary fiberizers (ID Nos. RA01 through RA10, RB01 through RB10, RC01 through RC12, and RD01 through RD12) emitting through Stack ID Nos. F_01 through F_11. Following the initial performance testing, the Permittee shall use the site specific emission data collected in accordance with Condition Nos. 4.2.1 and 4.2.3.
[Avoidance of 40 CFR 52.21]

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- 6.2.13 The Permittee shall use the protocol required by Condition No. 6.2.12 to calculate total monthly fluoride emissions from the entire facility. The Permittee shall use the monthly totals to calculate emissions on a 12-month rolling basis. A new 12-month total shall be calculated at the end of each calendar month. All emission factors, calculations, and operating data used to determine the emissions must be kept as part of the record.

The Permittee shall notify the Division in writing if the facility wide fluoride emissions exceed 0.241 tons during any calendar month. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limit in Condition No. 3.2.23.
[Avoidance of 40 CFR 52.21]

- 6.2.14 The Permittee shall maintain records of the hours of operation of the Emergency Generator (ID No. EGEN) during each calendar month for both emergency and non-emergency usage.
- 6.2.15 The Permittee shall notify the Division in writing of the startup of this source within fifteen (15) days of such date. The Permittee shall notify the Division in writing upon startup of each stack within fifteen days after such date.
[391-3-1-.03(2)(c)]

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PART 7.0 OTHER SPECIFIC REQUIREMENTS

7.1 Specific Conditions

- 7.1.1 The Permittee shall construct and operate the source or modification as defined in Application No. 24026 that is subject to Georgia Rule 391-3-1-.02(7) in accordance with the application submitted pursuant to that rule. If the Permittee constructs or operates a source or modification not in accordance with the application submitted pursuant to that rule or with the terms of any approval to construct, the Permittee shall be subject to appropriate enforcement action.
[40 CFR 52.21(r)(1)]
- 7.1.2 Approval to construct this facility as defined in Application No. 24026 shall become invalid if construction is not commenced within 18 months after the issuance date of this Permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Director may extend the 18- month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date. For purposes of this Permit, the definition of “commence” is given in 40 CFR 52.21(b)(9).
[40 CFR 52.21(r)(2)]
- 7.1.3 The Permittee shall submit a completed Part 70 Operating Permit application to the Division in the approved format within 12 months after startup of operations of equipment specified in Application No. 24026.

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PART 8.0 GENERAL PROVISIONS

8.1 Modifications

- 8.1.1 Prior to any source commencing a modification as defined in 391-3-1-.01(pp) that may result in air pollution and not exempted by 391-3-1-.03(6), the Permittee shall submit a Permit application to the Division. The application shall be submitted sufficiently in advance of any critical date involved to allow adequate time for review, discussion, or revision of plans, if necessary. Such application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity of the plant before and after the change, and the anticipated completion date of the change. The application shall be in the form of a Georgia air quality Permit application to construct or modify (otherwise known as a SIP application) and shall be submitted on forms supplied by the Division, unless otherwise notified by the Division.
[391-3-1-.03(1) through (8)]

8.2 Circumvention

State Only Enforceable Condition.

- 8.2.1 The Permittee shall not build, erect, install, or use any article, machine, equipment or process the use of which conceals an emission which would otherwise constitute a violation of an applicable emission standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of the pollutants in the gases discharged into the atmosphere.
[391-3-1-.03(2)(c)]

8.3 Other General Provisions

- 8.3.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate the source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on any information available to the Division that may include, but is not limited to, monitoring results, observations of the opacity or other characteristics of emissions, review of operating and maintenance procedures or records, and inspection or surveillance of the source.
[391-3-1-.02(2)(a)10]

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State Only Enforceable Condition.

- 8.3.2 No person owning, leasing, or controlling, the operation of any air contaminant sources shall willfully, negligently or through failure to provide necessary equipment or facilities or to take necessary precautions, cause, permit, or allow the emission from said air contamination source or sources, of such quantities of air contaminants as will cause, or tend to cause, by themselves, or in conjunction with other air contaminants, a condition of air pollution in quantities or characteristics or of a duration which is injurious or which unreasonably interferes with the enjoyment of life or use of property in such area of the State as is affected thereby. Complying with Georgia's Rules for Air Quality Control Chapter 391-3-1 and Conditions in this Permit, shall in no way exempt a person from this provision.
[391-3-1-.02(2)(a)1]
- 8.3.3 In cases where conditions of this Permit conflict with each other for any particular source or operation, the most stringent condition shall prevail.
- 8.3.4 The Permittee shall calculate and pay an annual Permit fee to the Division. The amount of the fee shall be determined each year in accordance with the "Procedures for Calculating Air Permit Fees."
- 8.3.5 At any time that the Division determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Division reserves the right to amend the provisions of this Permit pursuant to the Division's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.